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10/528,041	02/21/2006	Ryuji Izumoto	Q86960	9021

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EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1791

MAIL DATE	DELIVERY MODE
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10/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,041

Applicant(s)

IZUMOTO ET AL.

Examiner

Justin R. Fischer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 7-9, 13-15 and 18-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-12, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>31705, 71107</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of a runflat support having a shell component comprising an electromagnetically-formed aluminum alloy (claims 1-6, 10-12, 16, and 17) in the reply filed on September 27, 2007 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4-6, 10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glinz (US 6,672,349) and further in view of Rathke (US 5,826,320). Glinz substantially teaches the runflat support member of the claimed invention, including a ring torus or cylindrical shell component formed of an aluminum alloy (Column 4, Lines 10-30). The reference, however, is completely silent with respect to the method in which the aluminum ring torus is formed. Rathke, on the other hand, is broadly directed to a method of forming complex metallic workpieces using electromagnetic means, wherein such a means provides rapid, easy, and consistent production of said workpieces (Column 1, Lines 5-15). One of ordinary skill in the art at the time of the invention would have found it obvious to form the ring torus of Glinz via the electromagnetic forming technique of Rathke for the reasons above. It is emphasized that Rathke is broadly directed to the manufacture of complex, metallic

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workpieces and thus is directly analogous to the aluminum workpiece (ring torus) of Glinz.

Regarding claim 4, the ring torus of Glinz comprises two convex portions 5,6 (see Figure 1).

With respect to claim 5, the figures generally depict the concave portion as having a diameter that is slightly less than that of the adjacent convex portions. One of ordinary skill in the art at the time of the invention would have recognized such a disclosure as satisfying the broad range of the claimed invention. It is emphasized that the upper limit of the claimed invention suggests that the respective portions have extremely similar diameters.

As to claim 6, the ring torus of Glinz has a thickness between 4 and 6 millimeters, which is fully encompassed by the broad range of the claimed invention (Column 4, Lines 35-45).

With respect to claim 10, Rathke discloses each of the claimed method limitations (consistent with electromagnetic forming technique).

4. Claims 1, 2, 10-12, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morinaga (JP 2002234304) and further in view of Rathke. Morinaga is directed to an annular reinforcement structure (cylindrical shell) that is designed to, among other things, improve tire safety at the time of puncture (can be viewed as runflat tire support). The reference further teaches that said cylindrical shell can be formed of aluminum (Paragraph 36). The reference, however, is completely silent with respect to the method in which the aluminum cylindrical shell is formed. Rathke, on the other

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hand, is broadly directed to a method of forming complex metallic workpieces using electromagnetic means, wherein such a means provides rapid, easy, and consistent production of said workpieces (Column 1, Lines 5-15). One of ordinary skill in the art at the time of the invention would have found it obvious to form the cylindrical shell of Morinaga via the electromagnetic forming technique of Rathke for the reasons above. It is emphasized that Rathke is broadly directed to the manufacture of complex, metallic workpieces and thus is directly analogous to the aluminum workpiece (cylindrical shell) of Morinaga.

As to claims 2, 11, and 12, the cylindrical shell of Morinaga includes communicating holes 64. While the reference fails to expressly disclose the size of said holes, one of ordinary skill in the art at the time of the invention would have expected them to be relatively small as they are designed to provide communication means between adjacent chambers. One of ordinary skill in the art at the time of the invention would have found it obvious to form the holes of Morinaga in accordance to the broad range of the claimed invention (0.5-10 mm). Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed hole dimensions.

With respect to claims 10 and 12, Rathke discloses each of the claimed method limitations (consistent with electromagnetic forming technique).

5. Claims 1, 2, 4, 5, 10-12, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dieckmann (US 6,619,350) and further in view of Glinz and Rathke. Dieckmann discloses a runflat support member comprising a cylindrical shell

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component and formed of, for example, a light metal (Column 10, Lines 25-35). While the reference fails to expressly disclose the use of aluminum, such a material is well recognized as a light metal that is commonly used in the manufacture of similar runflat support members, as shown for example by Glinz (Column 4, Lines 10+).

Furthermore, as to the specific method of forming the aluminum cylindrical component, Rathke describes an electromagnetic forming technique that is used in the manufacture of complex, metallic workpieces and teaches that such a method provides fast, efficient, and consistent workpieces (Column 1, Lines 1-20). Thus, one of ordinary skill in the art at the time of the invention would have found it obvious to form the cylindrical shell of Dieckmann from electromagnetically formed aluminum, in view of Glinz and Rathke.

Regarding claims 2, 11, and 12, the cylindrical shell of Dieckmann includes a plurality of recesses or holes through which a lubricant chamber extends (Figure 1). One of ordinary skill in the art at the time of the invention would have been able to appropriately select the dimension of said holes as long as the lubricant chamber is able to extend therethrough. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the broad range of the claimed invention.

As to claim 4, the cylindrical shell of Dieckmann includes two convex portions 13,14 (Figure 1).

With respect to claim 5, the figures generally depict the concave portion as having a diameter that is slightly less than that of the adjacent convex portions. One of ordinary skill in the art at the time of the invention would have recognized such a disclosure as satisfying the broad range of the claimed invention. It is emphasized that

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the upper limit of the claimed invention suggests that the respective portions have extremely similar diameters.

With respect to claims 10 and 12, Rathke discloses each of the claimed method limitations (consistent with electromagnetic forming technique).

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Glinz and Rathke as applied in claim 1 above and further in view of Wehner (US 5,868,023). As detailed above, Glinz is directed to a cylindrical shell component (ring torus) formed of an aluminum alloy. The reference further describes an exemplary aluminum alloy- AlMnSi (Column 4, Lines 38-42). While the reference fails to expressly describe the claim aluminum alloys, a fair reading of Glinz suggests the general use of a plurality of acceptable aluminum alloys. In this instance, Wehner suggests the alternative use of AlMnSi and the claimed aluminum alloys in the manufacture of hollow, vehicle components (Abstract and Column 2, Lines 22-30). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to form the ring torus of Glinz in accordance to the claimed invention.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over either one of (a) Glinz and Rathke, (b) Morinaga and Rathke, or (c) Dieckmann, Glinz, and Rathke, as applied in claim 10 above and further in view of Matsuo (JP 05016143). As detailed above, one of ordinary skill in the art at the time of the invention would have found it obvious to electromagnetically form the aluminum cylindrical shells of each reference (in view of Rathke). While Rathke fails to include exhaust holes or vent holes, such a structure is extensively used in a wide variety of molding operations in order to

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remove air trapped between the mold and the article being formed, as shown for example by Matsuo. In this instance, exhaust holes are provided in a tire molding operation. One of ordinary skill in the art at the time of the invention would have found it obvious to include vent holes in the tire manufacturing methods described above absent any conclusive showing of unexpected results.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin R. Fischer whose telephone number is (571) 272-1215. The examiner can normally be reached on M-F (7:30-4:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Justin R Fischer
Primary Examiner
Division 1791

JRF

October 2, 2007